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Date 11-9-84

Authorized Signature

	BARNWELL WASTE MAN Operated by CHEM NUCI P O Box 726, Barnwell, S (803) 259 RADIOACTIVE SHIPMEN THIS NUMBER ON ONTINUATION PAGES 1184-	LEAR SYSTEMS, INC South Carolina 29812 1781 T MANIFEST FORM OCATION NO PAGE 1	Tri- CARRIER State ADDRESS TELEPHONE 417-624-31 SHIPMENT TYPE Van SHIP SHIPMENT NO 615-3013 DRIVER SIGNATURE	BEHIPPING DAT MENT SURFACI LINER SERIAL 1	TE Navember 6. 1984 E EXPOSURE 270 mR/hR
rs) total for EACH CLASS NO OF WEIGHT PACKAGES (Pounds) Radioactive Material, empty packages	UN2908	(Cubic NO OF ALL TRITILIM	TOTALS STIVITY (10CFR 20 311) Curies Milhouries C 14 Tc 99 1 129	SOURCE (Pounds)	(7) TOTAL SNM ISOTOPE GRAMS U 233 N/A
Radioactive Material, fissile, n o s —Radioactive Material 10 43447 Radioactive Material, low specific activity, n o s —Radioactive Radioactive Material, n o s —Radioactive Material Radioactive Material, limited quantity, n o s —Radioactive Material Radioactive Material, special form, n o s —Radioactive Material Radioactive Material, instruments and articles—Radioactive Material	UN2982 sterial UN2910 ial UN2974	650 10 0.068 NP (8) TOTAL PALLET N/A VOLUME (CU FT)	NP NP NP	1 0	TOTAL V
Other (Specify) Contaminated Soil	SICAL FORM/ DIFICATION AGENT Solid AND UNLOADING MUST BE DESIGNATED AGENT assified described packaged marked		South Carolina Department of Healtheen inspected in accordance with ended and the Nuclear Regulate Bl Site Disposal Criteria within 48 him of tempor from compliance with the control of t	h and Environm i the requirement ory Commission ours prior to ship i all applicable l	nts of South Carolina Radioacti is License No. 12 13536 01 oment and further certification laws rules and regulations
☐ This material meets all license requirements ☐ This material was disposed of in accordance with license ☐ Discrepancy	14 1984				

Title HP TELLY.

BARNWELL WASTE MANAGEMENT FACILITY Operated by CHEM NUCLEAR SYSTEMS, INC

Umetco Minerals Corporation

GENERATOR NAME

CONTINUATION SHEET

USE THIS NUMBER ON VOLUME ALLOCATION NO ALL CONTINUATION PAGES 1184 – 117 – A

(16) ITEM NO UM84	(17) RADIO NUCLIDE EACH CONTAINER	(18) PERCENT OF ACTIVITY EACH NUCLIDE	(19) ACTIVITY EACH CONTAINER (mCi)	(20) PHYSICAL FORM	(21) CHEMILAL FORM AND NAME & OF CHELATING ACENT	(22) WASTE DESCRIPTION	(23) WASTE FORM CLASS			(25) SPECIAL NUCLEAR MATERIAL (grains)	(26) SOURCE MATERIAL (pounds)	(27) DISPOSABLE CONTAINER WEIGHT (pounds)	(28) DISPOSABLE CONTAINER VOLUME (Cu Ft)	(29) CONTAINER TYPE	RADIATION CONTAINER SURFACE MORZHR D RZHR	LEVELS (11)	(DF	(31) TAMINATION ONTAINER SUREACE MZ100cm2) (Bet (Comma	(32) () O I SUB TYPE (A1 A2 LSA etc.)	(33) FISSILE CLASS	(34 LABE MARKI USE	LS/ NGS
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Form No CNS 201 (9-83)

Shipment No. 615-3013

Carrier's No 662583 --

Tri-State Motor Transit Company

Name of Carrier

RECEIVED subject to the classifications and tariffs in effect on the date of the issue of this Bill of Lading

UMETCO MINERALS CORPORATION

AT Matiena Nobio Niagara Falls, Ny 11-6 ,19<u>84</u> From

METALS DIVISION UNION CARBIDE CORPORATION

For use via carrier truck under the exclusive/sole use shipments/movements

the property described below in apparent good order except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood through out this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property, over all or any of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official, Southern, Western and Illinois Freight Classifications in effect on the date hereof if this is a rail or a rail water shipment or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.

Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, including those on the back thereof, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns

	Chem Nuclear Systems In	nc.		SHIPPER S OF	DER NO	CUSTOMER'S ORDER NO
onsigned to	o UCCMstals Dwisson Barnwell Management Fa	cilities				
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No Packages	Kind of Package Description of Articles, Special marks and Exceptions	*Weight (Sub to correction)	‡Class or Rate	Check Column	Subject to of applicate shipment consignee	to Section 7 of Conditions on the bill of lading if this is to be delivered to the without recourse on the
10	Radioactive Materials LSA nos (650 cu. ft.)	43740			consignor the following	the consignor shall sign ng statement
	Radioactive-MaterialUN-2912-			<u> </u>	ery of the ment of f	rier shall not make deliv is shipment without pay reight and all other lawful
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	This is to certify that the above named materials are proper marked and labeled, and are in proper condition for transportations of the Department of Transportation	rly classified des ortation accordir	scribed pacing to the app	ckaged olicable	on the prop	perty described hereon
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Form RHA-PNC (5/80)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTRL Radioactive Waste Shipment Prior Notification and Manifest Form

1. Name and Address of Shipper. Umetco Minerals Corporation 137 - 47th Street Niagara Falls, NY 14302 3. Radioactive Waste Transport Permit No. 0211-31-84-X 5. Location from which waste will be shipped Same as (1) above 7. Scheduled Date of Departure of Shipment. November 6, 1984 9. Carrier Tri-State Motor Transit 10. Type of Transport Vehicle 11. Trailer No. and Owner 12. Parson Responsible for Radioactive (a) Name (b) Title Construction Superint (c) Telephone No (716) 278-3361 4. Shipment Identification No.: 1184-117. 6. Name and Address of Consignee Chem-Nuclear Systems, Inc. P.O. Box 726 Barnwell, South Carolina 29812 8. Estimated Date of Arrival of Shipment November 8, 1984 9. Carrier Tri-State Motor Transit 10. Type of Transport Vehicle 11. Trailer No. and Owner (if available) 12. Routes shipment will follow in State of South Carolina (Be Specific) 1-20, I-26, US-321, S.C. 3 and S.C. 64 Manifest Summary 13. Type Container or Cask 14. Container Spec. 15. Total No. of Containers We have Description. Physical and Chemical Form Contaminated Soil, Metal Oxides, Bidg. Rubble, Wood and Plant Hardware 16. Waste Classification M Radioactive LSA 11. Bulk LSA 12. Normal Form Normal Type & quantity (1) Class II Normal Form Pissile Normal Form Normal Type & quantity (1) Class II Normal Form Pissile Normal Form Nor	993	Reverse Side	for Instructions		
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Typed or Printed Name and Title			Typed or Pr	rinted Name and Title	

Original: S. Carolina Copy: Chem-Nuclear

UN2912

DHEC 802 (5/80)

(Copies of this form may be reproduced locally as needed)

General Instructions and Information

1. This form is to be used to provide the Department with prior notification of radioactive waste shipments transported into or within the State of South Carolina. This notification is to be made 72 hours before the expected date of arrival in the State. All written notices should be mailed to:

Bureau of Radiological Health Radioactive Waste Management Section S.C. Dept. of Health and Environmental Control 2600 Bull Street Columbia, South Carolina 29201

- 2. A separate form shall be submitted for each radioactive waste shipment.
- 3. Prior notification is required of all radioactive waste shipments as defined in paragraph 2 of Interim Regulations for the Transportation of Radioactive Waste into or within South Carolina except as provided in paragraph 4.1.2 of the Regulation.
- 4. The "Manifest Summary" portion of this form will satisfy requirements of providing the Department with a shipping manifest, however, it does not satisfy the requirements of shipping documents which shall accompany the shipments as required by DOT Regulations and the disposal facility's license and criteria.
- 5. A copy of this completed form shall be provided to the carrier and all drivers of the radioactive waste shipment.
- 6. Upon delivery of the shipment to the consignee, acknowledgement of receipt shall be obtained, and a copy of this form and the shipper/carrier's certification form shall be returned to the Department.

Specific Instructions

Item Number

- Self Explanatory
- 3. This item applies to all shipments of radioactive waste transported to and within the State of South Carolina.
- 4. Each shipment of radioactive waste shall be identified in some manner by the shipper. This number can be a radioactive shipment record number, bill of lading number, allocation number, etc. The identification number shall only be used once to identify the one shipment for which notification is being made.
- 6. Indicate in this item the disposal facility, company, organization, etc., to which this shipment has been consigned.
- 8. For through shipments, indicate in this item estimated date shipment will pass through the state.
- 9. Self Explanatory
- 10.& 11. Applies only to exclusive use, sole use, and full load shipments.
- 12. All routing information must be specific. You should check with carrier to insure routes you prescribe are appropriate. The carrier is responsible to inform the Department of any changes of routes in South Carolina after departure.
- thru 21. Self Explanatory

To be signed only by an authorized representative or agent of the shipper Certification: and carrier.

Form RHA-CT (5/80)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL Radioactive Waste Shipment Certification Form

General Instructions and Information: This is a two part form to be used by shippers and carriers of radioactive waste. The certifications contained herein satisfy the requirements of Section 13-7-150, of Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act. This certification along with a copy of the prior notification form shall accompany each shipment of radioactive waste into and within the State of South Carolina. The shipper is to complete his portion of the form and present it to the carrier as part of the shipping documents. Upon receipt, the carrier shall complete his portion of the form. Upon delivery of the shipment to the consignee, a copy of this certification form, and a copy of the Prior Notification and Manifest form with the consignee acknowledgement, shall be returned to the Department.

the Department.	
Part I:	Shipper's Certificate of Compliance
1. Name of Shipper and Address:	2. Shipment Identification No.
Umetco Minerals Corporation	1184-117-A
137 - 47th Street Niagara Falls, NY 14302 Telephone No. (716) 278-3361	3. Transport Permit No. 0211-31-84-X
Telephone No. (/IO / E/O 3301	

In compliance with Act No. 499 of 1980, the South Carolina Radioactive Waste Transportation and Disposal Act, I hereby certify on behalf of the above-named shipper to the South Carolina Department of Health and Environmental Control that the above-named shipper has complied with all provisions of Act No. 499 of 1980, and all applicable laws and administrative rules and regulations, both State and Federal, regarding the packaging, transportation, storage, disposal and delivery of such wastes. I further certify that this shipment of radioactive waste has been inspected within 48 hours of the time of departure and that no items of non-compliance with applicable laws, rules or regulations were found.

Date	November	6,	1984

G.E. Walck, Construction Superintendent
Typed Name and Title of Agent of Shipper

J. E. Hales.

Part II: Carr	ler's Certification
1. Name of Carrier and Address:	2. Shipment Identification No.
Tri-State Motor Transit Company	1184 -117-A
P.O. Box 113 Joplin, Missouri 64801 Telephone No. (800) 641-7591	3. Transport Trailer No.
Telephone No. (600) 641 7321 4. Scheduled Date of Departure of Shipment:	5. Estimated Date of Arrival of Shipment:
November 6, 1984	November 8, 1984

Certification is hereby made to the South Carolina Department of Health and Environmental Control that: (a) the shipper has provided the carrier with a copy of the shipment manifest, the certificate of compliance, and the routing instructions; (b) the shipment of radioactive waste has been properly placarded for transport according to applicable U.S. Department of Transportation Regulations; (c) all shipping papers originated or reproduced by the carrier have been properly executed; (d) the transport vehicle has been inspected according to applicable State and Federal regulations within the prescribed intervals and that all safety and operational components are in good working order and meet the requirements of regulations; (e) all drivers who will operate the vehicle within the State of South Carolina are qualified to transport hazardous materials as specified by applicable U.S. Department of Transportation regulations; (f) the Department shall be immediately notified of any variance, occurring after departure, from the shipper's notification of primary routes in South Carolina and estimated date of arrival; (g) all applicable laws and administrative rules and regulations, both State and Federal, regarding the transportation of radioactive wastes will be complied with.

Date November 6, 1984

Rulan 9 Jones Driver

Typed or Printed Name and Title

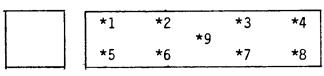
Lula Corus

DHEC 803

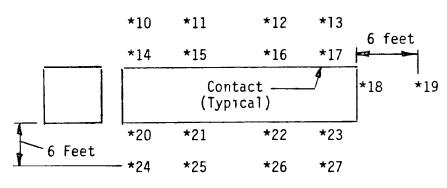
UMETCO MINERALS CORPORATION NIAGARA FALLS, NEW YORK

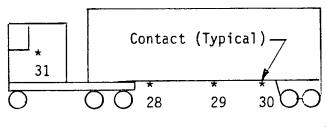
DATE 11-6-84
SHIPMENT NO. 615-3014

TRAILER NO. 445109



TRUCK FLOOR SURVEY (UNLOADED)





TRUCK EXTERIOR SURVEY (LOADED)

NO.	8	₽
1	.006	20
2	.007	-
3	.010	
4	,009	40 40
5	.007	40
6	.010	
7	.010	- 40 30
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9		30
10	.012	
11	.016	
12	.024	
13	.016	
14	.020	
15	. 030	
16	.028	
17	.030	
18	.026	
19	.030	
20	.026	
21	.036	
22	.042	
23	.034	
24	,020	
25	.026	,
26	.02€	
27	.026	
28	.042	
29	.046	
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LEGEND:

* Location of Reading

 $\delta = mR/hr Ludlum Model 19 (S/N 22534)$

 β = dpm/100 cm² Ludlum Model 15 (S/N 28886) w/Ludlum Model 44-9 Probe (S/N 12708) - Eff. 42%

(Survey performed by)

	Date
CONTAINER SURVEY	•
BOX CONTROL NO. UM 84 - 198 BOX CAULKE	ED YES
BOX BANDED YES BOX WEIGHT	4112
RADIATION SURVEY (To	otal)
CONTACT mR/hr.	
3 FEET . 0 16 mR/hr.	
INSTRUMENT Ludlum Model 19	
SERIAL NUMBER 22534	
RADIATION SURVEY (Remove	able)
SMEAR NO. A 29 590	
dpm/100cm ² <<	•
BKG dpm/100cm ² B	
INSTRUMENT NMC Model PC-55	
SERIAL NUMBER 81-2712-05	

Date 10-3-84
CONTAINER SURVEY
BOX CONTROL NO. UM84-199 BOX CAULKED YES
BOX BANDED YES BOX WEIGHT 4477
RADIATION SURVEY (Total)
contactmR/hr.
3 FEET - 0 14 mR/hr.
INSTRUMENT Ludlum Model 19
SERIAL NUMBER 22534
RADIATION SURVEY (Removable)
SMEAR NO. A 29591
$_{\rm dpm/100cm^2}$ \sim
BKG dpm/100cm ² B
INSTRUMENT NMC Model PC-55
SERIAL NUMBER 81-2712-05

	Date 10-17-84
CONTAINER SURVEY	
BOX CONTROL NO. UM 84 - 204 BOX CAULKE	D YES
BOX BANDED YES BOX WEIGHT	4306
RADIATION SURVEY (To	tal)
CONTACT mR/hr.	
3 FEET .016 mR/hr.	
INSTRUMENT Ludlum Model 19	
SERIAL NUMBER 22534	
RADIATION SURVEY (Remova	ble)
Odpm/100cm ²	
BKG dpm/100cm ² B	
INSTRUMENT NMC Model PC-55	
SERIAL NUMBER 81-2712-05	

Date 10-17-84				
CONTAINER SURVEY				
BOX CONTROL NO. UM 84 - 205 BOX CAULKED YES				
BOX BANDED YES BOX WEIGHT 4502				
RADIATION SURVEY (Total)				
CONTACT .030 mR/hr.				
3 FEET . 0 10 mR/hr.				
INSTRUMENT Ludlum Model 19				
SERIAL NUMBER 22534				
RADIATION SURVEY (Removable)				
SMEAR NO. A 29 5 9 7				
$\underline{\hspace{1cm}}^{\text{dpm}/100\text{cm}^2} \hspace{1cm} \simeq \hspace{1cm}$				
BKGdpm/100cm ² B				
INSTRUMENT NMC Model PC-55				
SERIAL NUMBER 81-2712-05				

Date10-17-84				
CONTAINER SURVEY				
BOX CONTROL NO. UM 84-210 BOX CAULKED YES				
BOX BANDED YES BOX WEIGHT 4248				
RADIATION SURVEY (Total)				
CONTACT . 030 mR/hr.				
3 FEET mR/hr.				
INSTRUMENT Ludlum Model 19				
SERIAL NUMBER 22534				
RADIATION SURVEY (Removable)				
SMEAR NO. A 29602				
BKG dpm/100cm ² B				
INSTRUMENT NMC Model PC-55				
SERIAL NUMBER 81-2712-05				

Date 10-17-84					
CONTAINER SURVEY					
BOX CONTROL NO. UM 84 - 215 BOX CAULKED YES					
BOX BANDED YES BOX WEIGHT 4182					
RADIATION SURVEY (Total)					
CONTACT . 046 mR/hr.					
3 FEET mR/hr.					
INSTRUMENT Ludlum Model 19					
SERIAL NUMBER 22534					
RADIATION SURVEY (Removable)					
SMEAR NO. <u>A 29607</u>					
BKG dpm/100cm ² B					
INSTRUMENT NMC Model PC-55					
SERIAL NUMBER 81-2712-05					

Date 10-17-84
CONTAINER SURVEY
BOX CONTROL NO. UM 84-216 BOX CAULKED YES
BOX BANDED YES BOX WEIGHT 4466
RADIATION SURVEY (Total)
CONTACT . 028 mR/hr.
3 FEET . 0 12 mR/hr.
INSTRUMENT Ludlum Model 19
SERIAL NUMBER 22534
RADIATION SURVEY (Removable)
SMEAR NO. A 29608
dpm/100cm ² ~
BKG dpm/100cm ² B
INSTRUMENT NMC Model PC-55
SERIAL NUMBER 81-2712-05

Date 10-17-84					
CONTAINER SURVEY					
BOX CONTROL NO. UM 84-217 BOX CAULKED YES					
BOX BANDED YES BOX WEIGHT 4286					
RADIATION SURVEY (Total)					
CONTACT .030 mR/hr.					
3 FEET mR/hr.					
INSTRUMENT Ludlum Model 19					
SERIAL NUMBER 22534					
RADIATION SURVEY (Removable)					
SMEAR NO. A 29609					
Odpm/100cm ²					
$B \ltimes G$ dpm/100cm ² B					
INSTRUMENT NMC Model PC-55					
SERIAL NUMBER 81-2712-05					

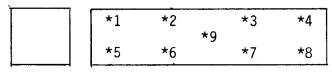
Date 10-17-84				
CONTAINER SURVEY				
BOX CONTROL NO. UM84-218 BOX CAULKED YES				
BOX BANDED YES BOX WEIGHT 4474				
RADIATION SURVEY (Total)				
CONTACT -028 mR/hr.				
3 FEET . 0 12 mR/hr.				
INSTRUMENT Ludlum Model 19				
SERIAL NUMBER 22534				
RADIATION SURVEY (Removable)				
SMEAR NO. A 29610				
Odpm/100cm ²				
BKG dpm/100cm ² B				
INSTRUMENT NMC Model PC-55				
SERIAL NUMBER 81-2712-05				

Date 10-17-84				
CONTAINER SURVEY				
BOX CONTROL NO. UM 84 - 219 BOX CAULKED YES				
BOX BANDED YES BOX WEIGHT 4394				
RADIATION SURVEY (Total)				
CONTACTmR/hr.				
3 FEET . 6 12 mR/hr.				
INSTRUMENTLudlum Model 19				
SERIAL NUMBER 22534				
RADIATION SURVEY (Removable)				
SMEAR NO. A 29611				
$\frac{O}{dpm/100cm^2} \propto$				
BkG dpm/100cm ² B				
INSTRUMENT NMC Model PC-55				
SERIAL NUMBER 81-2712-05				

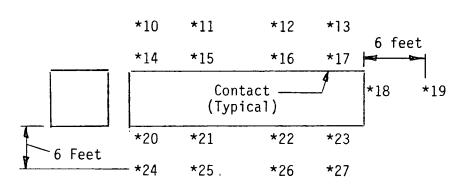
UMETCO MINERALS CORPORATION NIAGARA FALLS, NEW YORK

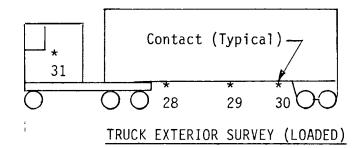
DATE 11-6-84
SHIPMENT NO. 615-3013

TRACTOR NO. 2293
TRAILER NO. 445147



TRUCK FLOOR SURVEY (UNLOADED)





Tuo I	~ ~ 1	
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9		40
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21	,026	
22	.024	
23	.020	
24	.016	
25	,018	
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27	.014	
28	.070	
29	, 050	
30	.046	
31	.028 .026 .032 .024 .030 .040 .032 .026 .020 .020 .026 .026 .026 .026 .016 .016 .014 .070 .050	
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LEGEND:

* Location of Reading

 δ = mR/hr Ludlum Model 19 (S/N 22534)

 β = dpm/100 cm² Ludlum Model 15 (S/N 28886) w/Ludlum Model 44-9 Probe (S/N 12708) - Eff. 42%

(Survey performed by)